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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,841	04/02/2001	Martin L. Lenhardt	063223/0121	8595

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WASHINGTON, DC 20006

EXAMINER
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QADERI, RUNA S

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 08/31/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/822,841

**Applicant(s)**

LENHARDT, MARTIN L.

**Examiner**

Runa S. Qaderi

**Art Unit**

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4,6-9 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4,6-9 and 14-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 3737

## **DETAILED ACTION**

### ***Claim Objections***

Claims 6 and 7 are objected to because of the following informalities:

Claim 6 line 5 recites "an output signal" that is interpreted to be the signal derived from a multiplying the input sound with the ultrasound frequency via a first gain stage. Claim 6 further recites that the "an output signal" is "further multiplied by a first gain value". Further from this on line 6 applicants recites "a recording medium that receives the output signal". It is confusing as to whether the second recitation to "output signal" of claim 6 refers back to the signal that is derived from a multiplying the input sound with the ultrasound frequency via a first gain stage or the signal that is derived from a further multiplication by a first gain value. If the former is true than how does the first gain value influence the signal at all. If the latter is true than the claim should be amended to recite a first and second output signals, respectively, or equivalents thereof. For prior art purposes examiner interprets it as the latter. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3737

Claim 2 recites the limitation "the ultrasound unit" in line 8. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis (US 6,682,472).

Davis discloses a method of tinnitus rehabilitation comprising the steps of providing music as a first input; the music then modified by a predetermined masking algorithm, entire patent. The predetermined masking algorithm is

Art Unit: 3737

interpreted as the at least one tone within the range of from 10Hz to 20 Hz, column 6 lines 13-27 and table 1. The modification of the music by the predetermined masking algorithm satisfies applicant's step to multiplying the music with the at least one tone. The tinnitus rehabilitation signal is then recorded onto a suitable personal sound reproduction system such as a high fidelity personal music player (PMP) for audio cassette (applicant's analog player), CD, or MP3 recordings (applicant's digital player).

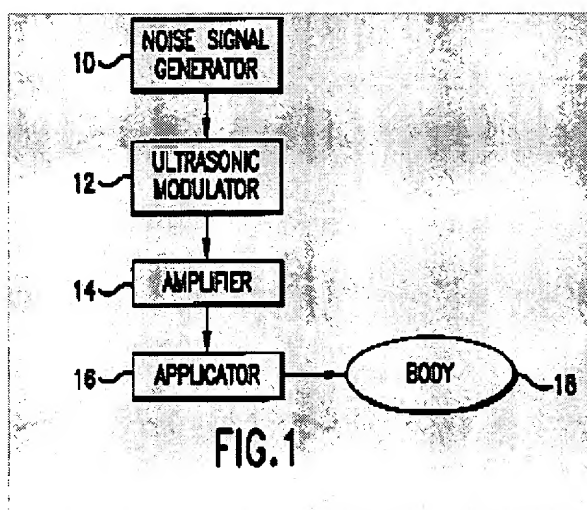
***Claim Rejections - 35 USC § 103***

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis.

Davis discloses the claimed method except for the step of wherein the at least one tone is noise. As stated above the step of providing a predetermined masking algorithm of Davis is interpreted as providing the at least one tone of the applicant. Furthermore the predetermined masking algorithm is a signal that is developed in accordance to the deficiency of the patient thereby providing tinnitus rehabilitation. Noise is broadly interpreted as sound of any kind. Therefore although the Davis reference does not explicitly recite said predetermined masking algorithm to include noise it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such because in light of the broadest interpretation of noise the predetermined masking algorithm is capable and encompasses the step of at least one tone comprising noise.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lippa et al. (US 6,377,693).

Lippa et al. (hereinafter Lippa) discloses a method and corresponding system of masking tinnitus using ultrasonic signals. Figure 1 of Lippa below diagrams a noise signal generator (10) that develops signals in the auditory range (more specifically between 100 to 20,000 Hz), column 2 lines 51-57. The output of the noise signal generator (10) is input to an ultrasonic modulator (12) wherein an ultrasonic signal of 25,000 to 30,000 Hz is the carrier of the auditory signal. The output of the ultrasonic modulator is input to the amplifier (14) which functions as the amplifier and power supply unit for suitably increasing the amplitude of the signal. The output of the amplifier (14) is input to an applicator (16) for application to the body (18). Applicator (16) may be the form of a speaker that creates physical vibrations in air, column 2 lines 29-35.



Art Unit: 3737

With respect to claim 2 the Lippa reference does not disclose the audio frequency to be no more than 20dB greater than a threshold level of sound for the person. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the audio frequency to be no more than 20dB greater than a threshold level of sound for the person because the applicant's specification is absent of any critically to no more than 20dB threshold. Furthermore the Lippa system is capable of satisfying the no more than 20dB threshold since it clearly recites that the amplifier (14) suitably adjusts the amplitude of the signal.

With respect to claim 4 the Lippa reference does not explicitly recite the "swept over a range of frequencies centered at the at least one upper frequency". Examiner explains that the method step of sweeping over a range of frequencies centered at the at least one upper frequency is not directly linked to the apparatus. To satisfy the apparatus of claim 4 a system must provide the claimed frequency range thereby being capable of sweeping that range. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to sweep a range because the Lippa reference discloses the claimed range.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lippa et al. (US 6,377,693) in view of Davis (US 6,682,472).

Lippa et al. (hereinafter Lippa) discloses a method and corresponding system of masking tinnitus. With reference to claims 6 and 7, figure 1 of Lippa

Art Unit: 3737

above discloses (a) a noise signal generator (10) satisfying the limitation to an input port for receiving an input sound in the upper audio range, (b) an ultrasonic modulator (12) that satisfies the limitation to an ultrasonic frequency source and a first gain stage to multiply the input sound with the ultrasound frequency, and (c) and amplifier (14) that receives the signal from the ultrasound modular (12). The amplifier satisfies the limitation to a first gain value by suitably adjusting the amplitude of the signal.

With respect to claims 8 and 9 the noise signal generator of Lippa develops signals that provide sensory stimuli that is in the auditory range. The signals include but are not limited to sine waves, square waves, white noise, or clicks. The signals from the noise signal generator are between 100 to 20,000 Hz. Furthermore column 2 line 11 recites that the signals from the generator are inputted to an ultrasonic modulator. Examiner emphasizes the recitation to "signals" to encompass the mixing of at least two signals to thereby generate the output of the noise signal generator. Therefore the noise signal generator satisfies the step of mixing an input sound signal with an upper audio frequency signals to obtain a mixed signal. An ultrasound modular receives the output from the noise signal generator. The ultrasound modular satisfies the step of mixing an ultrasound frequency signal with the mixed signal from the noise signal generator. An applicator in the form of head phones of Lippa satisfies the step of providing the signal to the patient by way of air conduction.

Art Unit: 3737

With respect to claims 6-9 Lippa does not teach the system and method of recording the tinnitus masking signal onto a recording medium. With respect to claim 7 Lippa does not disclose said input sound comprising music.

Davis discloses a system and method of tinnitus rehabilitation. The system and method provides music as a first input modified by a predetermined masking algorithm. The final signal is then recorded onto a suitable personal sound reproduction system such as a high fidelity personal music player (PMP) for audio cassette, CD, or MP3 recordings.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Lippa and Davis thereby providing a music as the input sound because music is more pleasant to listen to, the patient has the option of choosing the type of music they prefer, and music is more acceptable than noise when used at volume levels where the tinnitus could still be partly perceived as taught by Davis.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Lippa and Davis thereby recording the final signal onto a recording medium for playback at a later time because it is a more efficient, less expensive means and method of treating tinnitus that can be play back by the patient anytime anywhere as taught by Davis.

### ***Response to Amendment***

The declaration filed on January 15, 2004 under 37 CFR 1.131 is sufficient to overcome the Viirre et al. (WO 02/062264 A2) reference.

***Response to Arguments***

Applicant's arguments filed January 15, 2004 with respect to the Lippa et al. reference have been fully considered but they are not persuasive. Applicant argues that the limitation to no more than 20 dB greater than a threshold level of sound for the person is not satisfied by the system of Lippa. Examiner respectfully disagrees because absent of any critically to the 20dB in the applicant's specification the system of Lippa is capable of limiting and or suitably adjusting the amplitude of the signal to any desired level. Applicant further argues that the system of Lippa does not satisfy "swept over a range of frequencies". Examiner respectfully disagrees. First and foremost the limitation of claim 4 limits the invention such that an apparatus must be capable of sweeping over a range. The invention of Lippa discloses the applicant's claimed range and therefore is capable of sweeping that range.

Applicant's arguments with respect to claims 6-9 and 14-18 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Runa S. Qaderi whose telephone number is (703) 605-4285. The examiner can normally be reached on M-F 9:00-5:30.

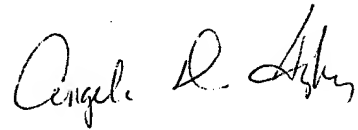
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes can be reached on (703) 308-5181. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RSQ



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